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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/414,082	10/06/1999	KENNETH M. BUCKLAND	062891..340	2772

7590 03/09/2004

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EXAMINER	
PHILPOTT, JUSTIN M	

ART UNIT	PAPER NUMBER
2665	12

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/414,082	BUCKLAND ET AL.	
	Examiner	Art Unit	
	Justin M Philpott	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-9,11-17 and 19-48* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-9,11-17 and 19-48* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 22, 2003 has been entered.

Response to Arguments

2. Applicant's arguments, see pages 21-23, filed December 22, 2003, with respect to the rejection(s) of the presently amended claim(s) 2-9, 11-17 and 19-48 under 35 U.S.C. 103(a) as being unpatentable over Arecco in view of Baniewicz have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent No. 5,532,862 to Tada et al., provided by Applicant in the Information Disclosure Statement filed December 22, 2003.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 2-9, 11-17 and 19-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,903,371 to Arecco et al. in view of U.S. Patent No. 6,512,740 to Baniewicz et al., further in view of prior art recited in U.S. Patent No. 5,532,862 to Tada et al.

Regarding claims 3-6, 12-14, 20-23, 27-29 and 48, Arecco teaches a method in a TDM network (e.g., FIG. 1) having a plurality of switchable paths (e.g., main path 5-8, and secondary path 9-12) to a common destination (e.g., one of nodes 1-4) wherein the method comprises: receiving TDM traffic from a traffic source (e.g., node 1) as a plurality of copies of traffic routed along a plurality of predetermined paths (e.g., main path and secondary path) originating at the traffic source, each one of the paths having a receive circuit (e.g., coupler 31 and 32 corresponding to main path and secondary path, respectively, see FIG. 2); configuring a TDM switch (e.g., switch 37) to provide a route to a common destination (e.g., line terminal 39) for each one of the paths; determining a qualified copy of the traffic (e.g., controlled selection means, see col. 2, lines 65-66); and discarding all copies of the traffic except for the qualified copy (e.g., see col. 2, lines 66-67). Furthermore, Arecco teaches the determining comprises detecting a loss of a signal at one of the respective circuits (e.g., see col. 4, lines 14-20).

However, Arecco may not specifically disclose the signal comprises a keep-alive signal, and further Arecco may not specifically disclose determining is performed prior to traffic reaching the TDM switch such that only the qualified copy is passed to the TDM switch for routing to the common destination.

Baniewicz also teaches a method in a TDM network having a plurality of switchable paths (e.g., see FIGS. 5A-6). Furthermore, Baniewicz teaches transmitting and detecting keep-alive signals (e.g., keep-alive messages) and alarm indication signals (e.g., AIS signals 130 in

FIG. 10) (e.g., see col. 7, line 15 – col. 8, line 20, and FIG. 7) for improved network performance. Specifically, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break.

However, Arecco in view of Baniewicz may not specifically disclose determining is performed prior to traffic reaching the TDM switch such that only the qualified copy is passed to the TDM switch for routing to the common destination.

The prior art of Tada also teaches a method for a TDM network having a plurality of switchable paths (e.g., see prior art FIGS. 6-8). Specifically, the prior art of Tada teaches determining a qualified copy of the traffic before TDM traffic reaches the TDM switch (e.g., see col. 1, lines 60-65 regarding copies sent in EAST and WEST directions; and see col. 1, line 66 – col. 2, line 8 regarding detecting transmission status at EAST/WEST receivers 701/702 and sending an AIS switching signal to the switching path #3), and discarding all copies of the traffic except for the qualified copy such that only the qualified copy is passed to the TDM switch (e.g., switching path #3 selects EAST traffic in place of WEST traffic as indicated in FIG. 6). The prior art of Tada provides improved reliability of high speed transmission lines (e.g., see col. 1, lines 14-21). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the prior art teachings of Tada to the method of Arecco in view of

Baniewicz in order to provide improved reliability for a TDM network having a plurality of switchable paths.

Further, regarding claims 4, 13 and 21, upon receiving a signal fail message in Arecco in view of Baniewicz in view of prior art of Tada, bit error rate implicitly exceeds 10^{-3} in the path.

Further, regarding claims 5 and 22, Baniewicz teaches accompanying traffic with kill-bits (e.g., X-bits, see col. 8, lines 35-60) to indicate whether the traffic should be switched through or discarded. As discussed above, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break.

Further, regarding claims 6 and 23, Baniewicz teaches communicating information related to qualifying between the respective receive circuits by means of path verification messaging (e.g., see col. 7, lines 60-61). As discussed above, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break.

Further, regarding claims 12, 14 and 28, while Baniewicz may not disclose a specific memory stores designated traffic, Baniewicz teaches memories are provided within nodes by disclosing that port listings are stored in each node (e.g., see col. 17, lines 52-61). Furthermore, the Examiner takes official notice that storing traffic within a provided memory in a node is well known in the art of network switching. As discussed above, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break.

Further, regarding claims 27 and 29, Baniewicz teaches receiving traffic associated with a path; determining if the TDM traffic is pass-through based on the path; and if the TDM traffic is not pass-through, set an accompanying kill-bit (e.g., removing path verification message comprising X-bit) if the receive circuit is stand-by for the particular path (e.g., see col. 8, line 35 – col. 9, line 25). As discussed above, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break. Further, while Baniewicz may not specifically disclose the path links are VTs, Baniewicz teaches that

path links are SONET links (e.g., see col. 7, line 64). The Examiner takes official notice that it is well known in the art that VTs are used as path links in SONET.

Regarding claims 2, 11 and 19, the determining of Arecco implicitly comprises receiving management traffic on a path indicating degradation or loss of signal on the path (e.g., controlled selection means, see col. 2, line 55 – col. 4, line 53). Further, the prior art of Tada teaches an Alarm Indication Signal which indicates degradation or loss of signal on the path (e.g., see col. 1, line 60 – col. 2, line 8). As discussed above, the prior art of Tada provides improved reliability of high speed transmission lines (e.g., see col. 1, lines 14-21). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the prior art teachings of Tada to the method of Arecco in view of Baniewicz in order to provide improved reliability for a TDM network having a plurality of switchable paths.

Regarding claims 7, 15, 24, 30, 32, 34, 36, 38, 40, 42, 44 and 46, the network of Arecco (e.g., see FIG. 1) comprises a first path (5-8) in a first direction (13) around a SONET UPSR and a second path (9-12) in a second direction (14) around the SONET UPSR, which provides an optical self-healing-ring communication network.

Regarding claims 8, 16 and 25, Baniewicz teaches TDM traffic is carried in STS-1 formats within a transmission signal (e.g., see col. 4, lines 1-17). As discussed above, the teachings of Baniewicz provide the network with the ability to accommodate at least some rerouting of traffic so as to restore circuit continuity within a predetermined maximum amount of time upon detection of a break (e.g., see col. 2, lines 25-33). Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the teachings of Baniewicz to

the method of Arecco in order to restore circuit continuity within a predetermined maximum amount of time upon detection of a break.

Regarding claims 9, 17, 26, 31, 33, 35, 37, 39, 41, 43, 45 and 47, Arecco teaches the TDM switch (e.g., switch 37) is configured to route TDM traffic from each respective receive circuit (e.g., coupler 31 and 32) to the common destination (e.g., line terminal 39). Further, while Arecco may not specifically disclose the path links are VTs, Arecco teaches that path links are optical links (e.g., see abstract). The Examiner takes official notice that it is well known in the art for VTs to be used as path links in optical networks.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Justin M Philpott

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